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Subject: Kibler et al 2013 article
Attachments: kibler et al 2013.pdf

This is the study which folks are incorrectly concluding that Type N stream treatments are not affecting stream temperatures –

Here are my notes from reading this document

The Hinkle Creek study (Kibler et al 2013) showed that 3 of the four treatment reaches had stream temperature increase resulting from harvest activities. These three stream segments had slash deposited on the stream surface (which is not allowed in the rule) which resulted in some amount of shading and thus reducing the amount of expected temperature increase expected at these sites (They measured 1.1, 0.6, and 0.7°C increase for these sites)

For example, the canopy closure of the overhanging vegetation (measured at waist height using a densiometer) over these streams was reduced by 84% following treatment, which indicates that the trees were removed, which resulted in greater levels of solar load. However, canopy cover measured using digital photograph 6 in above the stream surface, resulted in an average decrease of only 20% (ranging from 4 to 29%). The authors concluded that it was slash placed on the stream between these two measurements are resulting in the lack of shade

In addition, it was found that flows increase in all of these sites as a result of harvest activities and thus this increased flows muted the effect of harvest at these sites.

The fourth site had slash completely covering up the stream and therefore shade levels barely reduce following treatment. That fact, in combination with higher flows following harvest, resulted in the stream getting much cooler following harvest at this site (+1.6°C). Thus, the result associated with this study is not a valid evaluation of the effects of forest harvest activities on stream temperature.

Because of this these problems with the study, it is not surprising that temperatures did not increase at the watershed outlet (i.e., warm water + cold water = water that does not change in temperature).

A true test of the effects of the harvest activities (no slash on the stream surface) would most likely result in much greater temperature increase.

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